

EXECUTIVE SUMMARY

N.L. Industries Magnesium Division

Rowley Plant

ACT/045/008

Section 10, Township 2 North, Range 8 West
Tooele County, Utah

May 1979

LOCATION:

N.L. Industries Magnesium Division is operating an evaporation mining operation and an oolitic sand placer operation between Lakeside Mountains and Stansbury Island in the Stansbury Basin. This area is approximately 45 miles west of Salt Lake City off of Interstate 80. N.L. Industries holds State leases on approximately 36,000 acres in the area of townships 1 - 3 north and ranges 6 - 8 west. Refer to the enclosed maps for location.

SOILS AND GEOLOGY:

The major portion of N.L. Industries lease area is located on the Great Salt Lake mud flats with the remainder located on Lake Bonneville deposits.

Soils in the area are very sandy. Soils will be stockpiled during the oolitic sand placer operation. N.L. Industries will attempt to revegetate the area following spreading of stockpiled soil over the area.

HYDROLOGY:

Water from the Great Salt Lake is pumped into Solar Pond #1 (shown on map #1). From there it is routed through the system of ponds #2 and #3 as shown. As it travels through the different ponds, the concentration of magnesium is increased by the evaporation of the water. As the water evaporates many of the salts are precipitated out by nature and aided by chemical treatment. From pond #3 the concentrated magnesium solution is piped to the plant site where the magnesium salt is removed from the water and the water is then discharged into the Great Salt Lake.

Water from the Skull Valley flowing through Delle Springs is the only major source of fresh water in the area. N.L. Industries has rights to a portion of this water, which is used in the mining process.

The oolitic placer operation will use some of the water from Skull Valley. This will be used to wash and screen the sand for the greatest concentration of oolites. These oolites will be used in the magnesium extraction process at the plant.

No degradation^a of the water is foreseen.

ECOLOGY:

The area is sparsely vegetated with shadscale, junegrass, sagebrush, and rabbitbush. The area is occasionally used by cattle, in limited numbers.

STRUCTURES AND FACILITIES:

The plant site covers an estimated 225 acres with a large portion of the area taken up by treatment ponds. There are at present two operating pump stations with an additional one proposed. There are approximately 15 miles of roads associated with the operation, but only an estimated 1/2 mile is used exclusively for the operation. The roads are used by many recreationalists for access to Stansbury Island.

MINING AND RECLAMATION:

N.L. Industries has committed to the items listed below:

During Operations:

1. Mining will be conducted in a safe, sound, technical and prudent miner-like fashion, as outlined in the Mining and Reclamation Plan.
2. Only areas listed in the Mining and Reclamation Plan will be disturbed or utilized.
3. Roads will be maintained on a regular basis to enable efficient use and travel.

After Operations:

1. Abandoned areas will be left in a self-draining and non-impounding condition.
2. Comply with all requirements of Rule M-10, Reclamation Standards, wherever applicable.
3. Reseed reclaimed areas of the placer mining operation with a diverse seed mixture as specified in the Mining and Reclamation Plan.
4. N.L. Industries - Magnesium Division will be responsible for successful revegetation of the area, to the extent practicable.

5. Surface roads that are not used for continuing use will be ripped and seeded.
6. All surface debris, scrap metal, discarded wood and unusable buildings will be either buried or removed from the site.

IMPACTS:

The evaporation facilities were in existence prior to the Utah Mined Land Reclamation Act. The Reclamation Plan will eliminate safety hazards and reduce environmental and visual impacts.

SURETY ESTIMATE:

Reclamation surety for this operation was estimated to be \$15,278.08 which includes a 5% inflation for 5 years of the mine life, to be readjusted as required at a review every 5 years.

The surety estimate includes the following work:

1. Removal of structures and equipment.
2. Removal of trash and debris.
3. Leveling of ancillary facilities and access roads.
4. Recontouring excavations.
5. Spreading of soils or surficial materials.
6. Soil stabilization, scarification, seeding of disturbed areas.
7. 5% inflation.

A copy of the reclamation surety is enclosed.

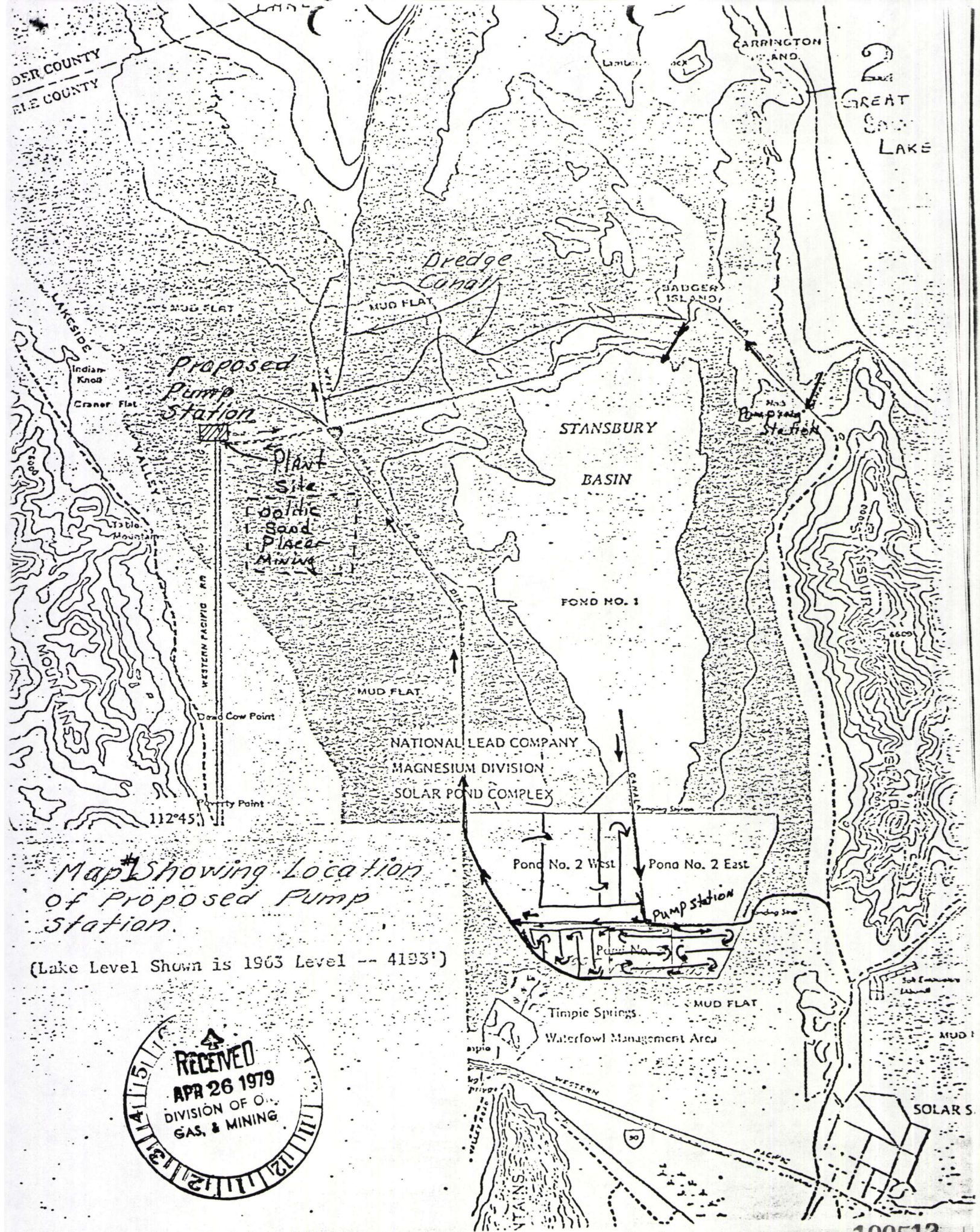
APPLICATION HISTORY:

June 27, 1978	Notice of Intent to Commence Mining Operations and Reclamation Plan received.
June 28, 1978	Request for Rule M-10 commitment by Division.
March 14, 1979	Renewal of N.P.D.E.S. Permit received.
April 5, 1979	Rule M-10 commitment received. Variances requested to M-10 (5), (12), (14).
April 12, 1979	Request for additional detailed maps and discussion of variances and when variances are needed.
April 19, 1979	Request by N.L. Industries to amend the Mining and Reclamation Plan to include an oolitic sands placer operation.
April 23, 1979	Field inspection of the area by Tom Suchoski and Mike Thompson of the Division. Accompanied by Mr. McCormick of N.L. Industries.
April 24, 1979	Submittal of maps by N.L. Industries.
April 26, 1979	Request for commitment from N.L. Industries as to revegetation of oolitic sands operation.
May 2, 1979	Commitment as to revegetation received from N.L. Industries.
May 4, 1979	Estimate of surety amount and bond form for surety sent to N.L. Industries for their comment.

DIVISION OF OIL, GAS, AND MINING
BOND ESTIMATE

OPERATOR: N.L. Industries
MINE NAME: Rowley Magnesium Plant
LOCATION: Section 10, Township 2 North, Range 6 West
COUNTY: Tooele
DATE: May 4, 1979

	Operation	Amount	Rate	Cost
A.	CLEAN-UP			
	1. Removal of structures & equipment.	\$1,000.00	Lump sum	\$1,000.00
	2. Removal of trash & debris.	\$ 500.00	Lump sum	\$ 500.00
	3. Leveling of ancillary facilities pads and access roads.	200 yd ³	\$2.25/yd ³	\$ 450.00
B.	REGRADEING & RECONTOURING			
	1. Earthwork including haulage and grading of spoils, waste and overburden.			
	2. Recontouring of highwalls and excavations.			
	3. Spreading of soil or surficial materials.	4,800 yd ³	\$0.84/yd ³	\$4,116.00
C.	STABILIZATION			
	1. Soil preparation, scarification, fertilization, etc.	24,200 yd ²	\$0.213/yd ²	\$5,154.60
	2. Seeding or planting.	5 acre	\$150.00/ac	\$ 750.00
	3. Construction of terraces, waterbars, etc.			
D.	LABOR			
	1. Supervision.			
	2. Labor exclusive of bulldozer time.			
E.	SAFETY			
	1. Erection of fences, portal coverings, etc.			
	2. Removal or neutralization of explosive or hazardous materials.			
F.	MONITORING			
	1. Continuing or periodic monitoring, sampling & testing deemed necessary.			
G.	OTHER			
	1. Bond for life of 5 years.	CAF=1.2763	Subtotal	\$11,970.60
			Total	\$15,278.08
				100511

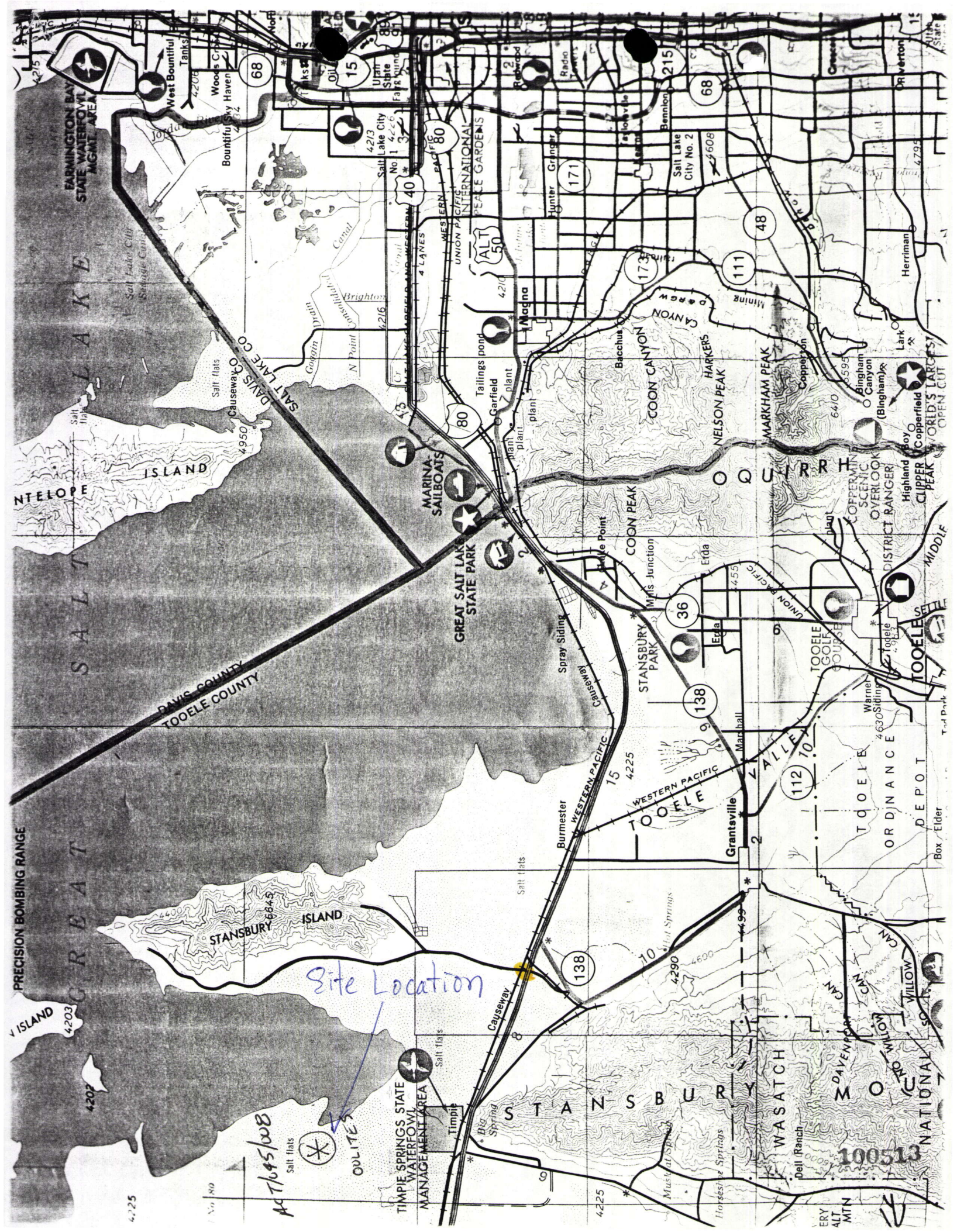


Map #1 Showing Location of Proposed Pump Station.

(Lake Level Shown is 1963 Level -- 4193')



100512



PRECISION BOMBING RANGE

ANTelope ISLAND

4225

ACT 1645/wB

Site Location

OULITE

TIMPIE SPRINGS STATE WATERFOWL MANAGEMENT AREA

STANSBURY

WASATCH

100513

WASATCH-CACHE NATIONAL FOREST

TOOELE

WESTERN PACIFIC

TOOELE

STANSBURY PARK

COON PEAK

STANSBURY PARK

COON PEAK

COON CANYON

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